The Veterinary Record

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 20. MAY 18, 1940. VOL. 52.

NORTHUMBRIAN PINING NOT CURABLE BY COBALT ADMINISTRATION

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The significance of " trace elements " in nutrition has recently been recognised and it has been established that a deficiency of cobalt, sometimes associated with copper deficiency, causes certain sheep diseases in Australasia. The view that " pining " in British sheep is also due to cobalt deficiency has lately received some prominence and Corner and Smith (1938)[1] have claimed cobalt administration to be an effective cure in cases of pining north of the Scottish border. A well controlled experiment carried out by the present writers in the course of a detailed investigation of pining in Northumberland, just south of the border, does not support this claim and in consequence it was considered of interest to publish the results obtained.

The word " pining " is used in hill districts of Britain to describe a debilitating disease of sheep, and occasionally young cattle, characterised by loss of weight and anaemia. This is purely a descriptive term, throwing no light on etiology, and it is, of course, possible that " pining " is brought about by different causes in different areas. " Pining " has several features in common with " bush sickness " in New Zealand, " enzootic marasmus " and " coast disease " in Australia, and " Nakuruitis " in Kenya, and it has frequently been assumed on this account that all these diseases are similar, if not identical. McGowan and Smith (1922)[2] gave a general account of " pining " or " vinquish " in the Cheviot Hills and recorded that it was held in check by good shepherding and frequent changes of pasture. Aston (1924)[3] suggested that iron deficiency in the pastures was responsible for bush sickness, and Godden and Grimmett (1928)[4] noted the similarity of this disease to " pining " in Scotland. Orr (1929)[5] found that iron licks prevented or cured " Nakuruitis " and suggested a similar treatment for pining. Greig, Dryerre, Crichton and Ogg (1933)[6] investigated " pine " in Tiree (Inner Hebrides) and, from an experiment on young cattle, concluded that the disorder of that area was caused by a deficiency of iron in the pastures. Following an observation by Thomas that the cobalt content of soils in " coasty " areas of Australia was low, Lines and Marston (1935)[7] obtained marked improvement by administering cobalt to sheep affected with " coast disease." Later Underwood and Filmer (1935)[8] concluded that cobalt was the potent substance in an iron-free extract of limonite with which they had cured " enzootic marasmus." Following the Australian work, Askew and Dixon (1936)[9] found cobalt would both prevent and cure bush sickness in New Zealand. In more recent studies, Lines and Marston (1938)[10] indicate that a deficiency of copper, in addition to that of cobalt, may be concerned in the causation of coast disease.

Stewart and Piercy (1935)[11] recorded data on the pathology of pining as it occurred in Northumberland. Blood analyses were carried out and the anaemia found was associated with heavy worm infestations present in the abomasa and small intestines. The predominant parasite was found to be *O. circumcincta*. Stewart and Ponsford (1936)[12] found marked calcium deficiency in certain pining pastures examined and a low iron content in practically all and found evidence of malnutrition in the sheep. They suggested that pining resulted from a combination or interaction between malnutrition and parasitic infestation. In order to investigate this " interaction " more fully, a large scale field experiment was arranged in collaboration with H. H. Green and E. L. Taylor of the Ministry of Agriculture's Research Laboratory, Weybridge, and financed jointly by grants from the Agricultural Research Council and the Alan, Duke of Northumberland Memorial Fund. The results of this work, commenced in 1936, will be published as a joint investigation at a later date, but the salient features of provisional observations are briefly reviewed below.

Grieg, Dryerre, Corner and Smith (1938)[13] tested the preventive and curative effects of iron ammonium citrate on pining and the curative effect of a copper preparation. They concluded that copper had no effect, but that pining was prevented and cured by iron. Their observations were not continued, however, to the point where the untreated controls actually died from pining. Corner and Smith (1938)[1], prompted by work on coast disease and bush sickness, considered that the beneficial effect of iron compounds in pining might have been due to traces of cobalt present as an impurity. They carried out soil and pasture analyses in pining areas and gave cobalt chloride (Analar) solution to sheep on pining farms. No significant difference in the cobalt content of pining and non-pining soils and pastures was demonstrated, but they reported striking results from cobalt treatment both in preventing and curing the disease. It was concluded that the administration of 1 mg. cobalt per head per day for fourteen days, spread over three weeks, will not only cure the disease, but prevent its appearance for six months in sheep newly brought on to pining land.

At this point the general criticism may be made

that in much of the work on pining, too much reliance has been placed on its general resemblance to diseases in other parts of the world, and the apparent success of experimental treatments, based on somewhat superficial observations, has been too readily accepted as convincing proof of the nature of the disease. Fundamental observations co-ordinating nutritional, parasitological and pathological features have not been made. The actual diagnosis of pining has frequently depended on the general appearance of the ewes and has not been supported by liveweight comparisons and blood analyses, nor by *post-mortem* examinations. In view of the work of Stewart and Piercy (1935)[11] associating "Northumbrian pining" with worm infestation and the suggestion put forward by Stewart and Ponsford (1936)[12] that the disorder was caused by an interaction between malnutrition and parasitic worm infestation, it is surprising that Greig, Dryerre, Corner and Smith (1938)[13] should not have carried out *post-mortem* examinations. They appeared to dismiss the importance of parasitic infestation on general grounds and after carrying out a few faecal worm egg counts. Our own observations described below show that when the parasitic factor is adequately controlled by regular anthelmintic dosing, the degree of malnutrition in the area under investigation is insufficient of itself to give rise to the appearance of the typical disease.

Corner and Smith's results (1938)[1] are open to criticism on several points. For example, in preventive trials all the untreated sheep (except one) were judged to be pining six weeks after moving to pining land, whereas the cobalt-treated sheep remained healthy. Pining was not diagnosed by blood examination but by the general appearance of the sheep and the somewhat superficial method of inspecting the conjunctiva. Since the untreated sheep showed an average gain of 2·6 lb. liveweight the degree of pining cannot have been severe; otherwise a loss of weight would have occurred. The diagnosis of pining must, therefore, be questioned. Again, the experiment was discontinued after six weeks, without waiting for terminal phases, and a curative experiment on the untreated sheep, now judged to be pining, was at once undertaken. Cobalt solution was administered to the untreated controls and they are stated to have recovered in one month. No controls were left to show the natural course of the disease. Two months after treatment commenced an average liveweight gain of 3·2 lb. was shown by these sheep. This can hardly be offered as evidence of recovery if the previous gain of 2·6 lb. in six weeks by these same sheep (as opposed to a greater increase in the treated sheep) is taken as proof of pining. Corner and Smith's tests were conconducted on hoggs (young sheep) and it is possible, in absence of controls to prove the contrary, that a general improvement in condition would have occurred without cobalt treatment as a result of the natural immunity to worm infestation which develops at about six months of age. Corner and Smith discussed these same results in a further article (1939)[14] and lest the opinion that pining is caused solely by a deficiency of cobalt gain acceptance it is timely to record experiments which do not support this view.

As mentioned above a three-year field investigation of pining was commenced in 1936. Five groups, originally of 32 sheep, have been kept in 40-acre enclosures on a pining hill for three years. The stock was allowed to increase by retaining in each group an equal number of ewe lambs born in 1937 and 1938. Allowing for deaths occurring from pining and other causes, the plots in April 1939, were stocked as follows:—

Plot 1, 63 sheep; Plot 2, 61 sheep; Plot 3, 50 sheep; Plot 4, 57 sheep; and Plot 5, 46 sheep.

The following treatments were given:—

Plot 1. Supplementary food + worm treatment.
Plot 2. Worm treatment.
Plot 3. No treatment and no change of pasture.
Plot 4. Supplementary food.
Plot 5. No treatment but usual twice-yearly changes of pasture.

The supplementary food consisted of ½ lb. per head per day of a special mineralised cake. This provided extra calories and protein as well as supplying daily 1·96 g. Na, 3·03 g. Cl, 2·19 g. Fe, 6·80 g. Ca, 3·51 g. P and also 0·49 mg. Mn, 2·67 mg. Co, 0·70 mg. K, 2·30 mg. I, and 7·59 mg. Cu. The worm treatment consisted of a mixture of copper sulphate and nicotine given by mouth every three weeks. Body weights, faecal egg counts and blood analyses were obtained for every sheep at regular intervals. Valuable information on the relationship between nutrition and parasitic infestation has been obtained and will be published in full. *Post-mortem* examinations, including differential worm counts on the abomasum and small intestine, were carried out on all sheep dying during the experiment. Very heavy worm infestations were found in sheep dying of pining and, as had been found by Stewart and Piercy (1935)[11], *O. circumcincta* predominated.

Deaths from pining occurred principally in the two untreated groups and, during 1938 and 1939, 17 sheep died from pining in Plot 3 and 31 in Plot 5. Marked differences between the groups became apparent by the end of the first year and by March 1939, after 2½ years' continuous treatment, it was evident that either the mineralised supplementary food alone, worm treatment alone or the double treatment prevented pining, practically all the pining cases occurring in the two control groups (Plots 3 and 5). The double treatment gave the best result, the sheep in Plot 1 being definitely superior as judged by body weight and blood analyses as well as by appearance.

In view of the Australian work an adequate supply of cobalt had been included throughout the experiment in the supplementary ration, and it was therefore possible that the addition of this substance had prevented the appearance of pining in Plots 1 and 4. In March 1939, when many of the sheep in Plots 3 and 5 were pining an excellent opportunity presented itself to test the specific curative effect of cobalt. Altogether 110 sheep were affected, some severely as judged by blood examination and body weight records and the remainder moderately.

Treated and untreated groups were obtained by halving the stock on both plots, using haematocrite estimations as criterion of the severity of the disease. Equal numbers of severely and moderately affected sheep were placed in each group, but all four of the worst piners were included in the treated group. The treated sheep were dosed by mouth daily with 3 mg. cobalt per head in the form of cobalt chloride (Analar) solution. Daily treatment was continued for three weeks, and subsequently 21 mg. cobalt was administered once weekly throughout the summer. Cobalt treatment at a level of 3 mg. cobalt per head per

GROUP DIFFERENCES AFTER 2½ YEARS

Observation.		September, 1936.					March, 1939.				
		Treated.			*Controls.*		*Treated.*			*Controls.*	
		Group 1	Group 2	Group 4	Group 3	Group 5	Group 1	Group 2	Group 4	Group 3	Group 5
16 Original Lambs	Average Liveweight (lbs.)	48	47	47	48	48	103	84	85	78	73
	Average Haematocrite...	29·0	28·8	29·4	28·3	29·0	29·0	26·0	26·0	25·0	23·0
	Average Faecal Worm Egg Count	1,010	775	919	519	619	73	75	107	315	484
16 Original Ewes	Average Liveweight (lbs.)	80	81	81	81	82	109	95	106	85	88
	Average Haematocrite...	29·9	30·1	29·9	28·5	30·4	29·0	26·0	25·0	24·0	23·0
	Average Faecal Worm Egg Count	87	134	157	150	112	43	31	31	200	225

day was thus given for five months continuously. During this period the sheep grazed as usual in their enclosures and no change in management was made.

The sheep were weighed and blood samples taken for haematocrite estimation at the commencement and at intervals during treatment. Despite cobalt treatment all the badly affected sheep died of pining and some in the treated groups, less severely affected at the commencement, succumbed later during the experiment. Altogether ten sheep died of pining in the treated groups and seven in the untreated groups. The four worst pining sheep died after receiving 11, 12, 20 and 26 daily treatments respectively. Three severely affected sheep died of pining after 13, 13 and 27 days treatment. Three less severely affected sheep became worse and died of pining after 33, 66 and 68 days treatment. Two untreated sheep, severely affected to commence with, died of pining in 28 and 107 days respectively, and five other untreated ewes died in 12, 19, 37, 102 and 110 days.

After three weeks treatment, sufficient according to Corner and Smith to bring about spectacular recovery, all sheep both treated and untreated, had lost weight and their haematocrite values had fallen. Those receiving cobalt treatment were in no way superior to the controls.

TABLE II

Changes in Average Haematocrite after Four Months Treatment

Plot.	Treatment.	Average Haematocrite, 29/3/39.	Average Haematocrite, 1/8/39.
3	Cobalt	22·0	26·0
	Controls	22·0	25·5
5	Cobalt	23·5	25·5
	Controls	22·0	24·0

After five months treatment there appeared to be a slightly greater increase in weight in the two treated groups. Since however more piners, all very light sheep, had died in the treated groups, any increase in average weight would be exaggerated. In order to obtain a fair comparison, it is therefore necessary in both groups, to exclude the initial weights of any sheep dying of pining during the experiment.

We conclude from the experiment described above that administration of cobalt at a level of 3 mg. per day for five months does not cure pining in sheep already affected, rather more sheep having died of pining in the treated groups. No difference in

TABLE I

Results of Dosing Daily for Three Weeks with 3 mg. Co per Sheep

Plot.	Treatment.	No. of Sheep.	Before Treatment (29/3/39).		After Treatment (19/4/39).	
			Average Live Weight.	Average Haematocrite.	Average Live Weight.	Average Haematocrite.
3	Cobalt	29	69	22·0	66	18·5
	Controls	29	68	22·0	64	19·0
5	Cobalt	28	66	23·5	64	19·0
	Controls	24	66	22·0	63	19·0

After three months continuous treatment both dosed and undosed sheep had gained some weight (see Table III *overleaf*) and although the increase in average haematocrite figures after four months treatment was marked in all sheep, no difference was observed between treated and untreated groups.

haematocrite between dosed and undosed sheep was observable after four months treatment and any difference in weight after five months did not appear significant. This result appears to disagree entirely with the conclusion reached by Corner and Smith (1938)[1].

Table III

Average Live Weight Changes after Three and Five Months

Plot.	Treatment.	Initial Average Live Weight,* 29/3/39.	Average Live Weight, 29/6/39.	Average Live Weight, 7/9/39.
3	Cobalt	71	75	78
	Controls	67	70	72
5	Cobalt	67	71	74
	Controls	65	69	67

* Excluding weights of sheep dying, subsequently, of pining.

The failure of cobalt to cure the condition, once established, does not of course exclude the possibility that cobalt deficiency decreases initial resistance to worm infestation and thus might play a part in the production of pining. Again, more than one type of deficiency might be involved and indeed Lines and Marston (1938)[10] have recently found coast disease in some areas to be associated with deficiency of copper as well as of cobalt, supplements of both trace elements being necessary to obtain complete prevention or cure.

Over a three-year period, our experiments have shown that either anthelmintic treatment or a special mineralised cake effectively prevented pining. Field trials are now being conducted in order to determine the essential constituents of the mineralised cake. It is hoped that these trials will show whether the malnutrition presumed responsible for reduced resistance to worm infestation and thus for the onset of pining, is one of mineral deficiency or of undernutrition due to lack of calories and protein in the poor hill herbage.

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[12]—— and Ponsford. (1936.) *Ibid.* **49.** 49.
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An exhibition of agricultural films will be held in Rome on the occasion of the general assembly of the International Institute of Agriculture, which will open on May 20th. Prizes will be awarded for films to be selected by an international jury.

VETERINARY ECONOMIES IN WAR*

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In this time of national crisis, our profession might give material assistance on the Home Front by the practice of intelligent economy in the use of veterinary supplies. We must anticipate that some essential supplies will become inadequate, prohibitive in cost, or, indeed, unobtainable, and we must face the prospect of adjusting our modes of treatment to cope with these altered circumstances. In order that the profession as a whole may maintain the highest possible standard of efficiency in the face of such difficulties, it is essential that its members should pool their knowledge and suggestions. I make herewith my own small contribution and hope that my example in quoting my own course of action may be followed by others.

Bismuth Carb.—Though the writer has discarded this drug for some considerable time, he can recommend cerii oxallas as having the same therapeutic value as bismuth at about one-fourth the cost.

Economies in spirit.—Though the quantity of spirit used in the field and in personal laboratories for heating preparations for microscopy is small, the following suggestion is entered here on the grounds of efficiency rather than economy. The writer has found *hexamine* to give a most economic, absolutely smoke-free intense flame. The substance is slightly hydroscopic and should be kept in a dry place. About 3 grains poured from a table salt-cellar upon a non-inflammable surface, a tin lid, and ignited will serve in flame for two minutes. From a ½ oz. one can prepare about 50 specimens.

De-fatting the hands prior to surgery and/or cleansing the hands from oils or grease. The writer has found and can recommend no better method than the use of kaolin, made into a moderately stiff paste with water, applied to the hands as a thin coating, allowed to dry, and then washed off in running water. In from four to five minutes one should have a hand so de-fatted that water will spread evenly over it. I advocate this to supersede alcohol which is extensively used for this purpose.

Oils and fats.—A considerable amount of these substances is used in mange dressings, and as they are of national importance, their cost might be expected to rise considerably. In the treatment of scabies the writer has become firmly of the opinion that the time-honoured solution of potassa sulphurata, when applied with diligence, has yet to be equalled as an efficient, yet economic, parasiticide for animal scabies. I have compared it with the sodium hyposulphite *cum* acid hydrochlor., of Demianovici's method, 1939, and still favour it on the grounds of efficiency.

The employment of derris root at this time is particularly thoughtless for any conditions other than lice infestation; or as a deterrent to warble fly; or in the treatment of parasitic otitis in animals.

Cotton wool.—Remembering the great part sphagnum moss played in the last war, those to whom this plant is accessible should lose no opportunity to

*Received for publication February 17th,

collect. The amount of cotton wool which can be used over a period in small animal practice becomes appreciable; the bulk of this is used as ear swabs. Some years ago the writer introduced a continuous irrigation method into this clinic. The apparatus is simplicity itself. A glass 4-pint douche vessel is obtained and to this is attached a suitable rubber tube 3 feet long. The free end is linked up *via* a glass tube to a male rubber gonorrhoeal irrigation tip. The irrigation solution decided is brought to 95° F., the douche vessel raised to from 2 to 2½ feet above the animal's head and irrigation commenced. Animals are not restrained in any way whatsoever no matter how apparently painful the ear appears to be—they stand for it well. The result in a short space of time is a perfectly clean meatus externi.

The writer, through treating the dog of a consultant in otology by this means, introduced the latter to the method, and he in turn introduced it into his institutional clinic with considerable increase in efficiency, decrease in complaints of pain while having the meatus cleaned by other methods and with considerable economies.

Hypodermic needles and syringes.—These have risen in cost by about 30 per cent. and show a strong tendency to rise still higher in respect of the "Record" type.

Hypodermic needles are rarely worn out. A very high mortality is suffered from blockage, bluntness and loss.

Blockage can be very considerably reduced if reasonable care is exercised by flushing out immediately after use with an appropriate solvent for the material injected, *e.g.*, to use spirit for this purpose after using a protein substance is courting blockage—cold water is recommended. It is important to dry the lumen and this is speedily achieved by blowing air through the cleansed needle, using a rubber bulb bellows, hand-type, to which has been attached a "Record needle adapter." Do not replace the stylet; this is for clearing and not creating blockage—the projecting ends serve as a conductor of moisture up the lumen, promoting formation of rust and blockage. Keep needles dry.

With regard to bluntness, there is no reason why any individual should not, after a little practice, be able to produce a satisfactory point on a needle. A small slip-stone, of the "Arkansas" or "Carborundum" quality, has given satisfaction here. One may test progress being made by passing the needle in and out of a pledget of cotton wool, when if any wool fibre be adherent, the presence of a burr is indicated. The final test is the facility with which the needle can be passed through a piece of wash-leather placed on the stretch.

Hypodermic syringes—mortality: fixed pistons, breakage and wear. Fixed pistons and wear will be considerably reduced if the piston ring, peculiar to the "Record pattern," be removed and discarded from all syringes on purchase. The removal in no wise decreases the pressure ratio of the syringe. The removal of the ring leaves an all-round air-lock as formed by the ring-groove: the effect is cushion-like; it provides a more sterilisable instrument, and removes a common cause of blockage. The same attention should be applied to the syringe as is recommended for the needles. If by misadventure a syringe should become fixed, prolonged immersion in the appropriate solvent, or KOH as a general solvent, will render the only assistance one deserves for one's carelessness.

Breakages in sterilising.—Bearing in mind that the instrument is composed of materials which differ widely in their co-efficient of expansion, our treatment should be governed by the most fractureable material—the glass barrel. As the vibration of ebullition can fracture the glass it is advisable to place a piece of flannel or other fabric in the bottom of the steriliser. The commencement and the ending of sterilisation of a syringe should be the same, *i.e.*, place the syringe in water at environmental temperature and do not remove it until the water has returned to the initial temperature. There may be some who do not know that the mountings of a syringe which has been broken are accepted towards a new syringe.

Notepaper and dispensing paper.—Printers and stationers are rationed in supplies to the extent of about 20 per cent. of normal supplies. This will react very materially upon all. Very frequently the writer has had cause to remark upon the excessive wastage in notepaper on the following grounds: a disproportionate amount of the paper devoted to the printed matter, to the loss of paper and dignity; the employment of a quarto sheet when a notepaper size would have liberally served the purpose of the note; by the employment of a printed sheet in every sheet of a many-page letter, whereas a continuation sheet—the same quality of paper, but unprinted—would have lent the dignity and space. No reasonable exception could be taken at this time to using both sides of the sheet.

As the time will possibly come when envelopes will become very costly, it might not be out of place to recall the practice of the last war when envelopes twere opened with care so that they could be used again and again.

With a view to economising in dispensing paper, I would point out that, as cardboard is a by-product from waste, it is not so prone to rise in cost to the same extent as paper. Therefore, wherever possible, one should dispense in bulk in cardboard cartons.

Petrol.—Apart from engine efficiency, driving, arranging rounds and other considerations conducive to making the most of one's ration, it will be to advantage if we can reduce weight by a few pounds through an inspection of "luggage"; so many of us carry around additional weight in rarely wanted materials and equipment. There is that most unwanted "luggage" of the undercarriage and wings—mud. An interesting experiment is to weigh that "not too bad" car before and after a thorough wash of the undercarriage and wings—do not be surprised if it is in the neighbourhood of 1 cwt.

Drugs.—Go over your store of drugs. If you have a surplus, a small advertisement in the *Veterinary Record* may relieve you of what another needs and finds difficulty in securing through his normal sources. At least return all empties to the suppliers; the more freely we keep these in circulation the lower the charges on packages will be kept.

The Yard.—Get all old iron away and all those unclaimed dog collars burned up in the boiler fire and the metal retrieved. The country needs the metal for munitions and you need the money.

N.V.M.A. Subscription.—It is no economy to resign from the N.V.M.A. at this time on the grounds of expense. You will admit that some, if not all, the issues of the *Veterinary Record* convey to you knowledge

you might not otherwise secure—it is not 10d. per week. Knowledge left aside for the moment is knowledge lost for all time. If you are but a reader, your way is easy compared to that of its contributors, even though we know that that blue pencil is wielded with kindness. To my mind, the greatest economic measure I can advance and advocate to the profession at this time is that the N.V.M.A. consider incorporating in its constitution a scheme combining the benefits of insurance against sickness with those of legal aid. This would mean an appreciable increase in our contribution, but who will deny its attraction and worth?

Colleagues! may you find as much enjoyment in writing up your contribution towards veterinary economies, which subject I have had the pleasure of introducing here, showing reason for its particular need at this time, and placing before you a few recommendations for your consideration.

ABSTRACTS

[THE TREATMENT OF TETANUS BY FORCED EXERCISE. Peatt, E. S. W. (1939.) *J. R.A.V.C.* **10.** 161-163.]

Four cases of tetanus are discussed. The author is of the opinion that forced exercise contributed towards recovery of three of them. The fourth case was in such an advanced state that exercise was out of the question.

Apart from treatment on orthodox lines, walking exercise lasting half an hour was given three times a day. The assistance of several men was required to prevent the animal from falling, especially when turning. After such exercise definite improvement was noticeable, and the stomach tube previously passed with difficulty, was passed easily.

The effect of the exercise on the disease is best given in the author's own words: "A possible explanation of the beneficial effects of exercise in the treatment of tetanus is that the consequent increased action of the heart and circulation of the blood, together with the movement of muscles, causes the tetanus toxin to be more rapidly and widely diffused throughout the body, thus reaching the central nervous system in a more diluted form, and also becoming eliminated from the body more rapidly."

C. F.

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[THE TREATMENT OF NASOPHARYNGEAL CATARRH IN THE HORSE. (Trans. title.) Neumann-Kleinpaul and Schutzler, G. (1939.) *Tierärztl. Rdsch.* **45.** 477-478.]

Affections of the upper respiratory tract such as strangles and equine pleuropneumonia are treated locally by irrigation of the naso-pharyngeal mucous membrane. It is thought desirable to remove the catarrhal discharge to prevent spreading of the local infection to the guttural pouches and facial sinuses.

Treatment consists of the passing of a gum-elastic spray catheter, 58 cm. long and 0·7 cm. diameter, *via* the inferior nasal meatus as far as the pharynx and the introduction by means of a syringe of a weak antiseptic.

The authors use a proprietary agent which is an ethereal oil. At one time a 5 per cent. dilution of Lugol's solution was used, but was found to be irritant. The number of irrigations necessary depends upon the severity of the symptoms. In the average case of nasal catarrh to or three were found to be sufficient.

C. F.

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[A CASE OF OPEN TUBERCULOSIS IN THE HORSE. (Trans. title.) Oppermann, M. (1939.) *Tierärztl. Rdsch.* **31.** 603-605.]

A case of generalised tuberculosis in the horse is described in which the tuberculin test (intradermal) was carried out on three occasions, each time with failure to obtain a positive reaction. For three months prior to admission to the clinic the animal had been off its feed and losing condition. Examination of the blood showed a leucocytosis (20,000 leucocytes per cubic millimetre) and rectal palpation revealed nodular enlargement of the spleen and mesenteric lymph nodes. Cardiac weakness increased and the pulse rose to 90 to 100 per minute on the day preceding the animal's death.

The autopsy showed caseating tuberculosis of the mesenteric lymph nodes with secondary lesions in the spleen and miliary tuberculosis as well as larger caseous and cavitating lesions in the lungs. Tubercle bacilli were very numerous in smears and the organism was shown by cultural characters and animal inoculation to be of the bovine type.

E. G. W.

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[RUPTURE OF THE OESOPHAGUS IN A HORSE. (Trans. title.) Scheuerer. (1939.) *Z. Veterinärk.* **51.** 85-91.]

Previously recorded cases of this condition are described, together with a further case in an army horse. The animal had received a kick from both hind feet of the preceding horse when at exercise, the blows falling on the anterior region of the neck without leaving any external signs of injury. No symptoms were observed until late in the evening of the same day when the animal refused its feed and stood with the head outstretched, the temperature being 103° F., the pulse 64, respiration 24 and normal. There was considerable swelling of the anterior part of the neck extending along its inferior third. On the following morning, the respiration was accelerated and laboured, the patient rapidly became worse and died within a few hours. An autopsy carried out six hours after death revealed inflammatory oedema and haemorrhage extending throughout the subcutaneous tissues of the lower third of the neck and a tear in the oesophagus about 3 cm. in length, the edges being haemorrhagic. The surrounding connective tissue showed early phlegmonous and gangrenous changes arising from extrusion of food material through the oesophageal wound. The cause of death was presumably toxaemia and septicaemia from the infected tissues.

E. G. W.

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[RECENT RABIES OUTBREAK. Kester, W. O. *Vet. Bull. U.S. Army.* **33.** 301-302.]

The city clinic of the Seattle City Health Department treated 1,170 persons for dog bite and administered 262 Pasteur treatments during 1938. There were 241 cases of rabies, but only one death, and this occurred in a patient who had not received the Pasteur treatment. The outbreak reached its peak when, during January, 1939, 205 persons were treated for bites, 40 received Pasteur treatment and 42 cases of rabies were reported. On January 3rd, a quarantine

order was issued requiring all dogs to be confined or on leash, and the outbreak was quickly controlled.

Two dogs belonging to military personnel were involved. One was an unvaccinated pup three months old. It developed a characteristic bark two weeks after being bitten on the lip by a stray dog and died four days later. The other showed symptoms three weeks after being involved in a dog fight. Paralysis of the lower jaw developed and was followed by death in three days. D. D. O.

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[SOURCES OF HAEMOLYTIC STREPTOCOCCAL INFECTION OF WOUNDS IN WAR AND IN CIVIL LIFE. Hare, R. (1940.) *Lancet.* 109-112.]

In the last war the majority of wound infections were due to *Cl. tetani*, gas gangrene organisms such as *Cl. welchii* or to haemolytic streptococci. The two former were controlled fairly effectively but the source of streptococcal infection remained a mystery, and the disease was not controlled. Now that the haemolytic streptococci have been divided into serological groups it has been possible to trace the source of infection. Contamination of a wound with dirt and mud gives rise to clostridial but not to streptococcal infection. It is shown that attendants who are normal carriers of streptococci, may infect wounds, but the most important means of infection in a hospital is air borne from already infected wounds and from cases of respiratory disease. [Of the haemolytic streptococci group A are the chief human, and group C the chief equine pathogens. It will be seen that attendants are not likely to infect horses, but it is probable that many horses are carriers of group C streptococci and in the common respiratory infections group C streptococci are the most important secondary invaders. The isolation of freshly wounded horses from those with respiratory infection and infected wounds may help to control streptococcal infection of wounds under war conditions.]

J. F.

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[STUDIES IN CANINE COCCIDIOSIS. Gassner, F. X. (1940.) *J. Amer. vet. med. Ass.* **96.** 225.]

Faecal examinations were made from 320 dogs brought to the Colorado State College Veterinary Hospital. Nearly 79 per cent. of these showed either sporocysts or oöcysts of *Isospora*, 6 per cent. showing *I. felis*, 20 per cent. *I. rivolta*, 71 per cent. *I. bigemina* (small variety) and 3 per cent. *I. bigemina* (large variety). *Eimeria canis* was not found. Fourteen dogs, presumably different from these 320, were isolated, precautions being taken against cross infection, and their faeces were examined daily for " four and six weeks." Eleven of these showed coccidia and none showed symptoms of coccidiosis. Eight were given 0·25 gramme of arecoline hydrobromide, which changes " chronic to acute coccidiosis." It is not clear what the author means by this, but apparently he gave this drug to induce the passage of sporocysts and oöcysts in the " epithelial shower " which resulted and succeeded in three out of eight cases. Oil of chenopodium produced the same result, but the oil in the faeces made faecal examination more difficult.

Post-mortem examinations on these 14 experimental dogs showed congested areas in the alimentary mucosa, especially in the Peyer's patches, and various degrees of thickening of the intestinal walls due to increase of connective tissue. Congestion of the serous coat was also seen, especially after arecoline hydrobromide. Sections showed that most of the coccidia were in the lower part of the ileum and the " anterior part of the jejeunum." None was found in the " anterior part of the duodenum " nor in the caecum.

The high incidence of *Isospora* in dogs is ascribed to the success of repeated examinations, combined with improved methods of technique, in detecting the presence of coccidia which would have been missed by less efficient methods. [Most protozoologists will agree that repeated daily examinations and careful technique are necessary to detect chronic coccidiosis]. Further, the oöcysts of *Isopora bigemina* are small enough to be easily overlooked, especially if they are few ; 42 per cent. of the faecal samples examined by Gassner showed only 1 to 5 " sporocysts " per slide. Gassner examined faeces by the modifications by Benbrook and Bourne of Sheather's centrifugal sugar flotation method.

Evidence is given in support of the author's view that the " sporocysts " of *Isospora bigemina* and sometimes those of *Isospora rivolta* are discharged mature into the intestinal contents, while those of *Isospora felis* need time for sporulation, so that contact with freshly passed faeces is enough to cause infection with *Isospora bigemina* and presumably sometimes with *Isospora rivolta*, but not with *Isospora felis*.* A useful brief review of earlier work on coccidiosis of dogs is given. G. L.

*The author's evidence in favour of this view is not very strong.

Thirteenth International Veterinary Congress, Zurich-Interlaken, 1938

ABSTRACT OF ACCOUNTS OF THE CONGRESS

Professor Flückiger, of Berne, forwards the following abstract of the accounts of the Thirteenth International Veterinary Congress—these accounts, according to a by-law of the congresses, having to be " published in the veterinary journals of those countries from which the largest number of members have been drawn."

A. *Revenues*:

	frs.
1. Donations from authorities, firms, veterinary societies and private persons	71,180.00
2. Subscriptions of members ...	56,960.90
	frs. 128,140.90

B. *Expenses*:

	frs.	frs.
1. General secretary-office ...	32,694.94	
2. Handbook, report of the Congress and printed matters ...	52,338.40	
3. Expenses of the Congress Zurich and Interlaken incl. Exhibition	33,132.56	
4. Contribution to the permanent committee at La Haye	1,500.00	
		119,665.90
Surplus: transferred on March 8th, 1940, to the Swiss Veterinary Society, Emmenbrücke.		frs. 8,475.00

Zurich, 13th of March, 1940. The financial committee: Baer. Heusser.

The Swiss Veterinary Society has examined and accepted the above accounts at its general meeting of January the 21st, 1940.

REVIEWS

[VETERINARY OBSTETRICS (EQUINE AND BOVINE). By Dr. Franz Benesch, Professor of Obstetrics and Director of the Obstetrical Clinic in the Veterinary High School, Vienna. English translation, edited by J. G. Wright, Professor of Surgery at the Royal Veterinary College, London. (Pp. 258. Figs. 135. 12/6 net.). London, Baillière, Tindall & Cox. 1938.]

In no branch of general practice is there such a feeling of satisfaction as when delivery of a case of dystocia is effected, but even the most skilful practitioner will have memories of cases which have defeated him.

This book merits study by everyone actively engaged in large-animal practice, as it will enable him to review difficulties which have given him trouble in the past, and will help him to meet future difficulties with a broadened basis of knowledge.

The author, editor and publisher are to be congratulated upon the excellence of the book, especially the clarity of the illustrations, most of which are full page and which constitute almost half the book.

One of the first few chapters, where general considerations of the subject are discussed, is devoted to Epidural Anaesthesia, and here will be found, described in a succinct manner, the technique for its performance by one who played an important part in introducing the method to veterinary practice.

The bulk of the book can be divided into two main parts, one, the greater part, being a systematic consideration of manipulative measures to correct dystocia, and a lesser part, devoted to embryotomy.

In this country obstetrical equipment varies in different districts, many instruments of use to one practitioner being worthless to others. What a strange array of instruments might be arranged for exhibition! This book serves to bring before us still further individualistic ideas of obstetrical equipment. Among many unfamiliar instruments mention will be made of one only, which is a modification of the familiar porte-corde which goes by the name of a Kuhn's crutch. Many of the illustrations show the varied uses to which this instrument can be put in correcting displacements, and it appears to be an improvement which is well worthy of trial.

The section on Embryotomy is a valuable part of the book and shows well what an important part the wire saw embryotome has come to play in efficient and rapid performance of reduction in the size of a foetus which one has failed to deliver intact. Many are familiar with the Danish (Thygesen) Embryotome and the Hannover modification of this model, and just as other obstetrical instruments have been modified to suit individual ideas so have these two original types, but one ventures to say that some of the models figured are so weird and wonderful that they are not likely to appeal to many British readers.

Students approaching veterinary obstetrics as part of an already overloaded curriculum will be disappointed to learn that, in spite of its title, this book deals only with a very limited part of the study which this subject requires. Even in the limited field covered it would have been an advantage to have introduced a detailed description of normal birth in the mare and cow, for without a clear conception of what to expect during the various stages of labour, much confusion may arise in the mind of the inexperienced which may lead sometimes to too hasty action.

["DUTCH VET"—A Novel. By A. Roothaert. (Routledge, 9/6).]

This novel, which in Holland has reached the status of a "best seller," is not only a first-rate work of art, but also in the opinion of the reviewer the greatest piece of propaganda, in the true sense of that word, on behalf of the country veterinary practitioner that has yet appeared in a novel.

It is an Odyssey of our best type of G.P. seen through the eyes of a sensitive artist in words. Its cameos of such events as calving a cow, replacing prolapse of a uterus, or our dealings with women of the "darling-little-tootsie-wootsie" type are technically most accurate, and the general appreciation of the rôle of the country veterinary practitioner in the life of the community is just and generous. All veterinary surgeons must buy, hire, beg, borrow, or, if necessary, steal this book. It will demonstrate to them, if they do not know it already, the constant self-sacrifice, renunciation, patience and courage that, mostly unsung, make up the mental stock-in-trade of any sincere and earnest practitioner of the veterinary art.

The translation is excellently done. Errors in descriptions of professional technique, that one would expect to find in a novel by a layman, are conspicuously absent. On page 177 the translators have got a little mixed in their mastitis nomenclature. Five minutes with a veterinary bacteriologist will put this right for subsequent editions.

Finally, may we end our panegyric of a delightful novel by entering a firm if unavailing protest at the title. A work of such literary importance should not have in its superscription that slang abbreviation "Vet." It will, we fear, put the would-be purchasers off rather than encourage them to buy this book.

THREAT TO THE ULSTER LIVESTOCK INDUSTRY

"Rumours that the London authorities are pressing the Northern Ireland Ministry of Agriculture to discontinue or greatly reduce premiums for stallions, bulls and boars, have caused much alarm in Ulster farming circles in the last few days," writes a Belfast correspondent to the *Farmers' Weekly* of April 26th, and continues, "Farmers recognise that Ulster breeding standards have risen very appreciably in recent years under the stimulus of the Ulster Ministry's premium schemes, and they think that to relax breeding standards now by practically cancelling the schemes would be false economy.

"A resolution deploring the proposed action was passed at a meeting of Co. Fermanagh Committee of Agriculture last week. Mr. J. E. J. Fawcett said that discontinuation of the premiums would mean that the whole livestock industry of the Province would virtually come to a standstill, with very serious consequences for Britain in the present emergency. Horses, in particular, might be characterised as the backbone of the country. They could be fed wholly on home-grown food, and could operate ploughs when tractor-driven implements had to be laid up owing to scarcity of petrol. Thus for food production alone the horse industry should be fostered. In conclusion, Mr. Fawcett said the importance of horses even in the export trade was shown by the fact that a commission appointed by the British and French Governments had come, or was about to come, to Northern Ireland for the express purpose of purchasing as many suitable types as possible. A discussion on the shortage of boars then took place. Mr. W. T. M'Clintock, agricultural organiser, said the British Government were not at all keen that pig production should increase, and would even be relieved if it decreased."

REPORT

IMPERIAL VETERINARY RESEARCH INSTITUTE, MUKTESAR. Report for the year 1937-38 (Haddow, J. R.), High Commissioner for India, Aldwych, W.C.2. Price 2s. 3d.]

The report includes those of the Biological Products Section and the Animal Nutrition Section at Izatnagar. There is no report from the Poultry Research Section.

Mr. Taylor continued to officiate as Director for the greater part of the year when Mr. Ware took over. Mr. Ware has since been appointed to the post of Animal Husbandry Expert to the Government of India. Owing to leave vacancies and retirements, there were many changes in continuity of service on the part of the superior staff which is notably short even when all are available for duty.

The Director's report deals with the staff, supplies and services, production, instruction, research in general, publications and matters of general interest. The capacity and scope of this important and well-equipped Institute are concisely described and six appendices provide very useful statistical information. The annual cost of the Institute amounts to some £55,000, of which about £35,000 is recovered by the sale of products.

The report of the Serology Section (Kaura, R. L.) covers a wide field and includes physiological and miscellaneous studies. Many interesting investigations in preventive medicine in various diseases found in India are being carried out and much valuable information is to be found in the report. In addition, much routine work was performed.

In the Pathology Section (Shirlaw, J. F.), investigations were carried out in Johne's disease, mastitis, enzootic haematuria, actinomycosis, microfilariasis and goat and poultry diseases. Work on helminthology is included in this section. Again a large amount of routine work was conducted.

The Protozoological Section (Datta, S. C. A.), was fully occupied in work in connection with trypanosomiasis, theileriasis, babesiasis, coccidiosis and other relevant studies and routine work. Entomology is dealt with under this section and some interesting investigations are recorded.

The report of the Biological Products Section (Hassan, S. R.) deals with serum production and administrative matters at Izatnagar.

The Animal Nutrition Section (Sen, K. C.) seems to have started well and when the new buildings are ready for occupation and well-equipped much may be expected, as there is a great field for research with the material available in India.

The report is a valuable one and should be read by all engaged in veterinary research particularly and by others who take any interest in the work of veterinary departments abroad.

G. K. W.

A Northallerton butcher has been fined £75 and six guineas costs for having slaughtered a bullock on his own premises. On his behalf it was stated that although he had 1,650 customers on his books in addition to hospitals and institutions, he was given an entirely inadequate allocation of meat, and an application to the control centre for more meat was refused.

IN PARLIAMENT

The following are among the questions and answers recorded in the House of Commons recently:—

Agriculture (War Measures)

Mr. De la Bere asked the Prime Minister whether he will find time for the Motion standing in the name of the hon. Member for Evesham (Mr. De la Bere) relating to Agriculture (War Measures):—

"*That this House regrets the failure of the Government to develop and revitalise agriculture since the outbreak of war, is of opinion that the half measures introduced under the Agriculture (Miscellaneous War Provisions) Bill are insufficient and inadequate, submits that the war is no excuse for postponing action, both broad and generous, but is a cogent reason for taking it at once and urges on the Government the necessity for full consideration being given to these matters by the chairman of the War Cabinet Committee dealing with agriculture in conference with the Minister of Agriculture and the Minister of Food, forthwith*"?

The Prime Minister: I can hold out no hope of special opportunity being given for discussion of the Motion standing in the name of my hon. Friend.

Mr. De la Bere: Does not my right hon. Friend appreciate that agriculture needs the full aid of the Government in order to obtain the maximum output of production, and does he not realise that Treasury restrictions must be abolished if we are to get this maximum output without further delay?

The Prime Minister: I think the Government's action shows that they realise the importance of agriculture. We have already had several days' Debate.

Mr. De la Bere: Not enough has been done.

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Poultry Population

Mr. Leslie Boyce asked the Minister of Agriculture whether his recent estimate that the decrease in the poultry population since the outbreak of war has been infinitesimal was based on a census limited to certain classes of breeders of poultry, and not including the commercial egg-producer?

Sir R. Dorman-Smith: The return to which my hon. Friend refers was obtained from persons occupying one acre or more of agricultural land and related to the position on March 4th. It therefore covered all classes of poultry farmers. No census was taken for the corresponding date in 1939, but the information in my possession leads me to believe that the present poultry population is not substantially below normal.

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Patrol Dogs

Mr. Lipson asked the Secretary of State for War (1) whether he can give an assurance that all necessary steps are being taken to provide our troops on all fronts with a sufficient number of patrol dogs;

(2) why the offer at the beginning of the war of the British Alsation Training Club to supply working dogs for patrols was refused; and what societies that specialise in training dogs for war purposes have been consulted?

Mr. Stanley: The employment of patrol dogs is still in the experimental stage. I have not been able to trace an offer from the British Alsatian Training Club, and I am not aware of any societies which specialise in training dogs for war purposes, but the police authorities and the Guide Dogs for the Blind Association have been consulted.

Mr. Lipson: Does not my right hon. Friend agree that it is quite wrong for this matter to be still in the experimental stage? Can he give any reason why our arrangements for control dogs are not at least comparable with those made by the enemy?

Mr. Stanley: I do not know what information the hon. Gentleman has about patrol dogs of the enemy. I am not aware that dogs are very largely being used, but where they have been used is I understand to accompany

people who happened to be on frontier guard in peace time.

Mr. Lipson: Would my right Friend not at least give an assurance that he will look into this matter further to see that more energetic steps are taken?

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Feeding Stuffs

Sir I. Fraser asked the Parliamentary Secretary to the Ministry of Food what new steps he is taking to see that there is an increased supply of straight feeding stuffs available to milk producers and to check evasions of the terms of the Maximum Prices Order in respect of the prices charged for compounds?

The Parliamentary Secretary to the Ministry of Food (Mr. Lennox-Boyd): I hope to be in a position to make a statement on this subject soon after the House reassembles.

Mr. De la Bere: Is not the main cause of this trouble the making of compound cakes by the milling combine; and will my hon. Friend take steps to see that undue making of these cakes ceases?

Mr. Lennox-Boyd: I think my hon. Friend will find my reply eminently satisfactory.

Mr. De la Bere: I think it will be found to the contrary.

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Poultry Feeding Stuffs

Mr. Leach asked the Parliamentary Secretary to the Ministry of Food whether, in view of the stoppage of Danish supplies of eggs, he is now in a position to issue an increase of food stuffs to poultry farmers?

The Parliamentary Secretary to the Ministry of Food (Mr. Lennox-Boyd): A special issue of cut wheat for the rearing of chickens has already been made and is operating over the four months, April to July. In view of the supply position of feeding stuffs I can hold out no prospect of a further special issue in the immediate future.

Mr. Leach: When does the Minister expect to see an improvement in this respect?

Mr. Lennox-Boyd: I am afraid that an improvement is very unlikely.

Mr. John Morgan: When the Minister says "special," does he mean over and above the normal supply which has been allocated?

Mr. Lennox-Boyd: Yes, Sir.

Mr. W. Roberts: Can the Minister say when any definite statement will be made as to when further feeding stuffs are likely to be available?

Mr. Lennox-Boyd: I hope at an early date.

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Abattoirs

Mr. Woodburn asked the Parliamentary Secretary to the Ministry of Food what steps he proposes to take to ensure that the abattoir at Alloa is hygienically equipped to deal adequately with meat in the warm season; and whether he is prepared to consult with the Alloa Town Council with a view to speedy and effective remedy for the existing deficiencies?

Mr. Lennox-Boyd: The question whether the arrangements made under the meat and livestock scheme in all parts of the country will be adequate when the warmer weather arrives has recently been under close examination by the Ministry's expert advisers. As regards Alloa, the Department's local officers are already in touch with the Town Council regarding certain improvements which they consider necessary.

The Minister of Food has appointed slaughterhouse tribunals, composed of three independent persons, to consider applications for increased slaughtering facilities under the control scheme for meat and livestock and to advise him on the action to be taken on each application.

NOTES AND NEWS

inclusion in these columns.

The Editor will be glad to receive items of professional interest for

Diary of Events

May 20th.—Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 4 p.m.

May 23rd.—Issue of R.C.V.S. Annual Report and Voting Papers.

May 24th.—Meeting of the Society of Veterinary Practitioners at Chester, 2.15 p.m.

May 24th.—Meeting of the Yorkshire Division, N.V.M.A., at Doncaster, 2.30 p.m.

May 30th.—Last date for receipt of R.C.V.S. Council Election Voting Papers.

June 6th.—**R.C.V.S. Annual General Meeting.** Victoria Veterinary Benevolent Fund Annual General Meeting.

June 20th.—R.C.V.S. Committee Meetings.

June 21st.—R.C.V.S. **Council** Meetings.

June 27th.—R.C.V.S. Written Examinations begin.

July 3rd.—Provisional date for commencement of R.C.V.S. Oral and Practical Examinations.

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National A.R.P. for Animals Committee

Notices

Warning to Stand By

The Chief Executive Officer caused the following notification to National A.R.P. for Animals Committee personnel to be broadcast last Friday with other Government announcements:—

"In view of the present situation, all officials on the technical side of the National A.R.P. for Animals Organisation throughout Great Britain are asked to stand by.

This includes members of the veterinary profession and their assistants, and the technical staff of the animal welfare societies co-operating with the National A.R.P. for Animals Committee.

The public are advised that they should on no account destroy their dogs or cats."

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Cave!!!

In view of the possibility of invasion of our country by German parachute troops, the Chief Executive Officer asks the veterinary officers to keep an unremitting vigilance on any incidents which may appear to them to be of a suspicious nature.

It is considered that the veterinary surgeon in the pursuit of his professional duties by day and by night, together with his intimate knowledge of his countryside, is particularly capable of acquiring information which may prove of exceptional value to the Authorities during these critical times. Should, therefore, any untoward event be recorded, immediate contact should be made with the Authorities concerned.

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Enrolment in Civil Defence Organisation

The attention of veterinary officers is drawn to the fact that they are expected to supply forms of application for registration as members of the Civil Defence Organisation recently issued by the Committee, to the Technical Personnel of the Animal Welfare clinics and dispensaries operating in their respective areas. These forms should be returned, duly filled in, to Headquarters at 36, Gordon Square, W.C.1, without undue delay.

This notice does not refer to personnel who have already returned their forms duly filled in.

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Change of Address

Will veterinary officers changing their addresses be good enough to notify, without delay, Headquarters at 36, Gordon Square, London, W.C.1?

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PERSONAL

Birth.—On May 3rd, 1940, to Olivia, wife of Harold Burrow, M.R.C.V.S., D.V.S.M., Derby, a daughter.

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Professor Share Jones Honoured.—At the annual meeting of the National Federation of Meat Traders' Associations, held in London on Wednesday of last week, Professor John Share Jones, M.D. (V., *h.c.*), D.V.Sc., M.Sc., F.R.C.V.S., formerly Director of Veterinary Studies in the University of Liverpool, was elected a Vice-President, "in recognition of his work for the animal industry." This is the highest honour within the power of the Federation to bestow upon those, outside its ranks, who have rendered service to the industry.

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On Leave.—Mr. R. B. H. Murray, M.R.C.V.S., D.V.S.M., of the Colonial Veterinary Service, has arrived in this country on leave from Uganda.

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MINISTER OF AGRICULTURE

The further list of appointments to the new Ministry announced on Tuesday night included that of Mr. Robert Hudson as Minister of Agriculture in succession to Sir Reginald Dorman-Smith. Sir Reginald, with first-hand knowledge of the industry, served agriculture faithfully and well on taking over the reins of office from Mr. W. S. Morrison; Mr. Hudson had been Minister of Shipping only since the recent death of Sir John Gilmour.

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BRISTOL'S NEW CLINIC FOR ANIMALS

The new R.S.P.C.A. clinic in St. James's Churchyard, Bristol, replacing that in Lewin's Mead, was opened on April 30th by the Lord Mayor of Bristol (Alderman A. W. S. Burgess), who was accompanied by the Lady Mayoress.

The Bishop of Bristol (Dr. C. S. Woodward), who presided, paid tribute to the R.S.P.C.A. and referred appreciatively to the work of the veterinary surgeons associated with the clinic.

The Lord Mayor, declaring the clinic open, offered his congratulations on the acquisition of those very fine premises, which should serve the objects they had in view in the best possible way.

Captain MacCunn (chief Secretary of the R.S.P.C.A.), who proposed a vote of thanks to the veterinary officers and workers at the clinic, said that the work of providing treatment or painless death for the sick or injured animals belonging to the poor had grown marvellously. It started in 1909 in Liverpool with 19 patients, and the number now treated at the various clinics was 331,604, and that would be very much increased this year and during the years of the war.

There were 700 veterinary surgeons helping them throughout the country, and they had no use for "the quack." He thanked all associated with the work in Bristol, and, referring to Mrs. Hellyar, said that there would not have been a clinic but for her devoted work.

Mr. C. E. Perry, F.R.C.V.S., on behalf of the veterinary surgeons of the clinic and others, acknowledged the vote and said that he looked forward to the time when there would be day and night service, and a resident veterinary surgeon.

ROYAL VETERINARY COLLEGE—OLD SERVANTS' FUND

List of Donations Received

	£	s.	d.
Dr. F. C. Minett	10	0	0
Students' Union (R.V.C.)	3	3	0
H. E. Bywater	1	1	0
P. Crosfield	1	1	0
H. S. A. Dunn	1	1	0
J. T. R. Evans	1	1	0
J. Going	1	1	0
C. R. Golledge	1	1	0
O. V. Gunning	1	1	0
S. F. J. Hodgman	1	1	0
W. S. King	1	1	0
Prof. J. McCunn	1	1	0
R. Machin	1	1	0
V. E. Perry	1	1	0
R. W. Roach	1	1	0
Dr. A. W. Stableforth	1	1	0
D. W. B. Taylor	1	1	0
Dr. W. R. Wooldridge	1	1	0
T. A. R. Filgate	1	0	0
R. C. U. Fisher	1	0	0
N. R. Turnbull	1	0	0
P. A. Mathew		15	0
M. J. Farman (Miss)		10	6
F. Land		10	6
E. R. Ambrose		10	0
N. S. Barron		10	0
W. Brown		10	0
J. J. Davies		10	0
A. B. Forsyth		10	0
G. N. Gould		10	0
E. A. Gray		10	0
R. C. G. Hancock		10	0
J. O. Joshua (Miss)		10	0
P. Z. Mackenzie		10	0
G. B. C. Rees-Mogg		10	0
N. D. Spriggs		10	0
J. S. Steward		10	0
R. Teverson (Miss)		10	0
O. Uvarov (Miss)		10	0
"L. J. W." (Recent Graduate)		10	0
H. A. King		7	6
D. A. Lemon		7	6
J. D. Blaxland		5	0
A. M. B. Copithorne (Miss)		5	0
M. I. Hearder (Miss)		5	0
G. S. Muir		5	0
	£44	10	0

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SLAUGHTERING OF ANIMALS

The *Meat Trades Journal* records that at their last meeting the Leatherhead Urban Council considered a report from the Chief Sanitary Inspector, based on replies put by Mr. Murrells regarding the slaughter of animals said to be casualties. It appeared from this report that "casualty or emergency slaughter" meant the slaughter of an animal where the slaughter was immediately desirable on account of accident or illness. The owner had to get in touch with the District Chairman of Auctioneers, who might issue a certificate to the effect that an animal should be slaughtered immediately to avoid its total loss by natural death, and would issue instructions as to where it should be sent for slaughter. He might require the opinion of a veterinary surgeon. The Local Authority should be given notice as soon as possible whether before or after slaughter took place. This meant that the Meat Inspector had an opportunity of inspecting the meat to see if it was fit for human consumption, and the Area Meat Agent had to be notified so that the salvaged parts should be taken into the rationing scheme. The Meat Agent decided whether the carcase should be used as part of the local meat allocation.

Mr. Murrells expressed the opinion that it was a very serious matter and said he was surprised that the Government should lend itself to such a policy. He was very dissatisfied with the answers.

Mr. E. Barden thought they should take steps to remedy the matter. Before a person was certified insane the magistrate had to obtain a doctor's opinion, but a District Chairman of Auctioneers could give a decision on a sick animal without reference to a veterinary surgeon. He thought such animals should be examined by a veterinary surgeon, and moved the question be referred to the Public Health Committee for consideration and report.

The Council agreed to this course.

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RED CROSS AGRICULTURE FUND

The committee of the above fund reports that its efforts are now meeting with an excellent response from the agricultural community, though much has still to be accomplished before the figures raised during the last European War, no less than £1,024,808 are surpassed.

The nature and aims of the fund were specified in a recent issue of the *Record*, but in order that there may be no confusion as to the identity and purposes of the Red Cross Agriculture Fund, it might be explained that the Executive Committee of the Mansion House Appeal appointed a special committee, designated the Red Cross Agriculture Fund, to operate in connection with money subscribed by agricultural and ancillary organisations on behalf of the Lord Mayor's Fund, raised in response to the appeal of the Duke of Gloucester for the Red Cross and St. John Joint War Organisation. In this connection, the committee's most recent announcement proceeds: "While the Red Cross is a peace-time organisation, the Lord Mayor's Fund is a war-time organisation. In the last war the Red Cross spent £17,000,000 among the sick and wounded and every penny was voluntarily subscribed. By the time that war had been cleaned up in 1920, over £20,000,000 had been spent. Red Cross funds are not by any means competent to cope with all war-time services, but the farmers of the nation can play their part in providing some of the wherewithal to ensure that the sick and wounded of our fighting services are especially well cared for; that prisoners of war receive constant medical supplies, clothing, and food; that convalescent homes are equipped and staffed, and that ambulances, X-ray units and other appliances are always in readiness for use. With Great Britain itself included in the presest war, the necessity of being prepared for eventualities means that the call for more equipment has become a very urgent one."

The committee also points out that it has been suggested in influential circles that a National Flower Show Week might be staged by the authorities of provincial Flower Shows during six days in August next, the proceeds of these exhibitions to be devoted to the Red Cross Agriculture Fund, and observes "many Flower Show promoters are hesitating about holding shows this year, but a very valid reason for continuing these annual exhibitions becomes apparent if the money accruing from them is devoted to this Fund. It is advisable that the organisation of such shows should be put in hand immediately so that the classification can be clearly stated in the show schedules. This year, such exhibitions ought to carry representative displays of vegetables and fruits and special classes might be included for the produce of allotment holders. There could be classes for jam, bottled and canned vegetables and fruit, cakes, eggs, cottagers' honey and even dressed fowls and rabbits produced by 'back yard' enthusiasts supporting the nation's 'Growmore' campaign.

"A National Show of Cocker Spaniels is to be held in aid of the Red Cross Agriculture Fund at Tattersalls, Knightsbridge, on Wednesday, June 5th, and, popular as that breed is, with its high entry records, it is certain that this show will surpass anything that the breed has attained since it caught the fancy of sporting people, as well as those townsmen who love the Cocker for his perpetual merry friendliness. Towards the funds of the show over £125 has already been subscribed, including 25 guineas from the Cocker Club itself.

"While many branches of the National Farmers' Union have decided to hold sales of live and dead stock in May and June, others are arranging similar sales for the autumn, or at any rate when the corn harvest has been gathered. Canterbury Market, the scene of several sales in aid of the Red Cross Agriculture Fund during the last war, will again be the venue of a monster sale of farm produce, initiated by the Canterbury branch of the N.F.U. in co-operation with all other branches in East Kent. The services of auctioneers, whose efforts contributed so markedly towards the success of the British Farmers' Red Cross Fund in the last war, are being freely given in connection with these sales, while haulage and other contractors are generously helping in dispatching stock to and from the sales.

"The Headquarters of the Fund are now at 30, Belgrave Square, S.W.1, where all communications should be addressed to the Secretary, Mr. Alec D. Robertson."

* * * * *

SWINE FEVER PREVALENCE IN ABERDEENSHIRE

Concern at the prevalence of swine fever was expressed at a meeting of the General Purposes Committee of the County Council, when Mr. H. L. F. Fraser, County Clerk, reported that in February and March there had been outbreaks at 19 different places.

Mr. J. Duthie Webster, Tarves, asked whether the County Council could do anything to check the disease. Could they recommend wholesale slaughter at places affected?

The Chairman (Provost Valentine, Inverurie) replied that that was a matter for the Ministry. The question of prosecution, however, lay with the County Council if they thought there was any case for action. Pig owners, he emphasised, should call in a veterinary surgeon as early as possible when they saw a pig sick.

Area Order

Owing to the wide prevalence of swine fever in Aberdeenshire, the Minister of Agriculture has issued a Swine Fever Infected Area Order to prevent, if possible, the spread of the disease. For the assistance of pig-owners, attention is drawn to the main symptoms of swine fever. When such symptoms are seen, pig-owners should either notify the police or call in their veterinary surgeon. "In their own interests," the Ministry's announcement concludes, "pig-owners will strictly comply with the instructions as set forth in the Order. The existence of this scourge and the upsetting restrictions call for the closest co-operation with the veterinary officials so that the disease may be suppressed and eradicated without delay."

* * * * *

LIVESTOCK FOOD SUPPLIES

The Ministry of Food has appealed to the feeding stuffs trade to supply more "straight" foods for feeding to livestock. A memorandum recently sent to all distributing dealers states: "It is most important that farmers and livestock keepers should receive *at least* a normal proportion of straight cakes, grain and meals in order that they may make the best use of feeding stuffs of their own growing and also of waste material, including swill. Since the outbreak of war, the proportion of balanced rations, and mixed meals and grain in the total quantity of feeding stuffs, has tended to increase, and the proportion of straight grain and meals has correspondingly decreased. But it is not desired that it should continue."

Supplies of feeding stuffs for animals which are "not of national importance during war-time," including deer hounds, game birds, silver foxes and other fur-bearing animals, "must be limited to quantities that are no more than sufficient to enable a nucleus of necessary stock to be retained."

The Ministry ask dealers to continue to give priority to dairy cattle, fattening cattle and sheep. This should mean an allocation to customers of 75 to 80 per cent. of the normal requirements.

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